



IDAHO DEPARTMENT OF HEALTH & WELFARE

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March 10, 2005

To: Idaho EMS Agencies, Medical Directors and Administrators

Reference: Epinephrine Use by EMS Providers in Idaho

Enclosed are program materials for use in developing an agency specific epinephrine auto-injector protocol, including the *Epinephrine Auto-Injector Program Licensure Agreement*, the *Idaho Epinephrine Training Curriculum Guide*, and both *Adult and Pediatric Basic Life Support Guidelines*. In September 2003, the bureau mailed these documents to all Idaho EMS agencies, and subsequently posted them on-line. To date, 25 eligible agencies have enrolled in the program by returning the *Epinephrine Auto-Injector Program Licensure Agreement*. Since your agency has not enrolled, we wanted to take this opportunity to remind you this program is available. The bureau continues to receive numerous private and legislative comments in support of epinephrine auto-injector availability to certified EMS personnel.

If your agency has deferred enrollment in the Idaho EMS Epinephrine Auto-Injector Program due to financial cost of purchasing epinephrine auto-injectors, please note that funding may be available. Agencies eligible for the FY06 Idaho Dedicated Grant Program can apply for an equipment grant to cover the initial cost of auto-injectors. The FY06 Dedicated Grant Application was mailed to grant eligible agency administrators on February 25, 2005, and is also available on-line at www.idahoems.org. Please contact your Regional Consultant with questions regarding the Idaho Dedicated Grant Program.

You may remember that at the September 2002 regular meeting of the Idaho Board of Medicine, concerned parents requested support for legislative changes to allow all levels of EMS providers to carry and administer epinephrine in the form of an auto injector (Epi-pen) for anaphylaxis. The Board of Medicine made the declarative statement that “current rule allows all levels of EMS to provide care for allergic reactions and that care for allergic reactions should allow the administration of epinephrine by auto-injector if needed.” The Board did not make any decision to support or propose any specific legislative changes since they did not receive the text for any recommended specific changes.

While the EMS Bureau is cognizant of the importance of providing access to quality EMS care for all infants, children and adults in Idaho, competence assurance must also be addressed. In response to this Board of Medicine rule interpretation, the EMS Bureau developed an Idaho EMS Epinephrine Auto-Injector Program to address agency licensure requirements and provide a training curriculum appropriate for Idaho BLS and ILS agencies which have medical directors.

Previously, in accordance with the EMT-B National Standard Curriculum (NSC) and by Idaho EMS policy, if the patient had been prescribed an Epi-pen and had it with them, the EMT-B or Advanced EMT-A EMS provider could assist with administration. The Idaho EMS Epinephrine Auto-Injector Program was created for the First Responder, EMT-B or Advanced EMT-A for use when an epinephrine auto-injector is carried by the EMS provider. Program requirements are outlined in the *Epinephrine Auto-Injector Program Licensure Agreement* and specify that all agencies choosing to include this medication must have an off-line medical director.

If implemented by your agency, additional resources for the instructor can be found at the web site www.anaphylaxis.com. Choose the “Professional Resources” option. Educational resources such as a slide presentation and case studies can be found there which may be integrated into your lesson plans.

Please direct any questions to your EMS Regional Consultant.

Sincerely,
Tricia Burns
Program Specialist, System Development



**IDAHO EMERGENCY MEDICAL SERVICES BUREAU
EPINEPHRINE AUTO-INJECTOR PROGRAM**

IDAHO EMERGENCY MEDICAL SERVICES BUREAU

EPINEPHRINE AUTO-INJECTOR PROGRAM LICENSURE AGREEMENT

EMS Agency Name: _____ Agency License #: _____

Agency Chief/Director Name: _____ Date: _____

Agency Mailing Address: _____

City: _____ State: _____ Zip: _____

Agency Phone #: _____ Agency E-Mail: _____

Agency Medical Director Name: _____

Medical Director Mailing Address: _____

City: _____ State: _____ Zip: _____

Medical Director Phone #: _____ Medical Director E-Mail: _____

Participation in this program is at the preference of the BLS or ILS EMS Agency and Agency Medical Director. Program participants must be Idaho licensed EMS agencies and have an Idaho licensed physician as an off-line EMS agency medical director.

As a participant in the EMS Epinephrine Auto-Injector Program, this EMS agency agrees to the following conditions:

- The Agency Medical Director and/or the EMS Agency shall provide initial training that meets or exceeds the objectives of the *Idaho Epinephrine Training Curriculum Guide* and provide annual refresher training.
- The EMS Agency will maintain a record of initial and refresher training dates, a roster of attendees, the curriculum followed, and a subsequent list of those authorized to use agency-supplied epinephrine auto-injectors.
- Only certified EMS personnel are eligible for training and only trained personnel approved by the Agency Medical Director are allowed to administer agency carried epinephrine auto-injectors.
- The EMS Agency will maintain a written protocol for use of the epinephrine auto-injector to include guidance for procedure to request ALS and/or Air Medical transports.
- The EMS Agency will establish a written policy for disposal of the auto-injector in accordance with standard Body Substance Isolation precautions to include biohazard and sharps disposal safety procedures.
- The EMS Agency will submit a *Patient Care Report* (PCR) to the Idaho EMS Bureau for each patient that receives an injection(s) of agency carried epinephrine by auto-injector. The PCR will have the Medication Administration data point filled in and include a narrative providing details on the medication use.

- The EMS Agency will maintain an Exposure Control Plan that includes details for handling an exposure to biohazards.
- The EMS Agency will establish a written policy for procedures to obtain, monitor expiration dates, store, control inventory and replace epinephrine auto-injectors.
- The EMS Agency will assure that two (2) adult and two (2) pediatric dose epinephrine auto-injectors are available to all trained personnel.
- The EMS Agency will establish an overall Quality Improvement program to assure that utilization of the epinephrine auto-injector is in accordance with the agency approved medical director protocol.
- The EMS Agency will ensure that all patients administered epinephrine in accordance with this agreement are advised to be transported without delay to a hospital emergency department for further evaluation and care.
- The EMS Agency will maintain a plan for On-Line Medical Control with an Idaho licensed hospital Emergency Department, having a physician present 24/7.
- The EMS Agency will provide a copy of their agency-specific treatment protocol to their on-line Medical Control and ensure orientation of the ED staff to provider capabilities.

EMS Agency:

Agency Chief/Director Signature: _____ Title: _____

Date: _____

Medical Director:

Medical Director: _____ License #: _____

Date: _____

IDAHO EMERGENCY MEDICAL SERVICES BUREAU

IDAHO EPINEPHRINE TRAINING CURRICULUM GUIDE

Student Eligibility

1. Idaho certified First Responder, EMT- Basic, or Advanced EMT-A.
2. Student currently enrolled in an Idaho approved First Responder, EMT- Basic or Advanced EMT-A initial training course.

Instructional Staff

1. Primary Instructor: One instructor approved by the agency medical director, who is knowledgeable in the pathophysiology of allergic reactions, anaphylaxis and the use of epinephrine auto-injectors.
2. Instructor Student Ratio: The instructor student ratio should be 1:6 for psychomotor practice.

Curriculum

1. Currently certified First Responder or student enrolled in Initial First Responder training course: Include all objectives.
2. EMT-Basic Initial course student: Supplement Module 4 of the EMT-Basic DOT National Standard Curriculum with additional necessary objectives.
3. Currently certified EMT-B or AEMT-A: Review and supplement Module 4 of the EMT-Basic DOT National Standard Curriculum.
4. Refresher: Incorporate into refresher lesson plans.

Materials Needed

Instructor:

1. Audio-visual materials related to allergic reactions and anaphylactic emergencies. Materials should be viewed and edited before presentation to ensure compliance with objectives in curriculum.
2. Product literature from manufacturer of epinephrine auto-injector that includes information on use of product, storage, precautions and warnings, adverse reaction and dosage information.
3. Copies of agency-specific epinephrine auto-injector protocol for adult and pediatric patients.
4. Epinephrine auto-injector trainer for demonstration.
5. *Idaho Epinephrine Training Curriculum Guide*.
6. Associated hand-outs and/or evaluation instruments

Student:

1. One (1) epinephrine auto-injector trainer for each student to use.
2. Copy of agency medical director approved, agency-specific epinephrine auto-injector protocol for adult and pediatric patients.
3. Associated hand-outs and/or evaluation instruments.

Testing/Evaluation

Course instructor will evaluate students to ensure competency in the proper use and disposal of the epinephrine auto-injector.

Certification/Authorization

There is no state certification for epinephrine auto-injector use. To be authorized to use agency-supplied epinephrine auto-injectors, the certified EMS personnel must complete the Idaho Epinephrine Training Program, be approved by their agency Medical Director and be an affiliated member of a licensed EMS agency.

Criteria for Completion

1. Attendance: All participants must sign the attendance roster and complete the training program.
2. Evaluation: Students will successfully complete an evaluation consistent with the identified objectives.

Cognitive Objectives

At the completion of this lesson, the EMS provider will be able to:

1. Recognize signs/symptoms of a patient experiencing a general allergic reaction.
2. Recognize signs/symptoms of a patient experiencing an anaphylactic allergic reaction.
3. Differentiate between the general condition of those patients having a general allergic reaction and those patients having an anaphylactic allergic reaction and requiring immediate medical care to include administration of an epinephrine auto-injector.
4. Describe the emergency medical care for the patient with an anaphylactic allergic reaction.
5. Describe the pathophysiology of an anaphylactic allergic reaction and the implications for airway management.
6. Understand the relationship between the patient with an anaphylactic allergic reaction and appropriate airway management.
7. State the generic and trade names, medication forms, dose, administration route, action, indications and contraindications for the epinephrine auto-injector.
8. Understand the situations where on-line medical direction is needed in the emergency medical care of the patient with an anaphylactic allergic reaction.
9. Explain the importance of good *Patient Care Report* (PCR) form documentation practices.

Affective Objectives

Explain the rationale for administering epinephrine using an auto-injector.

Psychomotor Objectives

1. Demonstrate the assessment of a patient with an anaphylactic allergic reaction.
2. Demonstrate the emergency medical care of the patient experiencing an anaphylactic allergic reaction.
3. Demonstrate the proper techniques for management of the airway of a patient experiencing an anaphylactic allergic reaction.
4. Demonstrate the use of the epinephrine auto-injector.
5. Demonstrate the proper disposal of the used injector.

6. Demonstrate proper documentation required for completing a *Patient Care Report* for a patient with an anaphylactic allergic reaction.

Classroom Presentation

I. Allergic Reactions

- A. Definition: An exaggerated immune response to any substance.
- B. Possible causes:
 - 1) Insect bites/stings- bees, wasps, spiders, etc.
 - 2) Food- nuts, shellfish, strawberries, etc.
 - 3) Plants- ingestion or absorption
 - 4) Medications- prescriptions, over-the-counter medications, illegal drugs
 - 5) Others- latex, chemicals
- C. General Allergic Reaction - Assessment findings may include:
 - 1) Itchy, watery eyes
 - 2) Runny nose
 - 3) Hives with no respiratory or cardiac compromise
- D. Anaphylactic Allergic Reaction - Assessment findings may include:
 - 1) Skin
 - a. Patient may state they feel warm tingling in the face, mouth, chest, feet and/or hands
 - b. Itching
 - c. Hives
 - d. Red skin (flushing)
 - e. Swelling in face, lips, tongue, neck, hands and/or feet
 - 2) Respiratory System
 - a. Patient may state they feel tightness in throat/chest
 - b. Cough
 - c. Rapid breathing
 - d. Labored breathing
 - e. Noisy breathing
 - f. Hoarseness (losing voice)
 - g. Stridor (Abnormal, high-pitched sound usually heard during inspiration)
 - h. Wheezing (audible without stethoscope)
 - 3) Cardiac
 - a. Increased heart rate
 - b. Decreased blood pressure
 - c. Chest pain
 - 4) Generalized findings
 - a. Itchy, watery eyes
 - b. Headache
 - c. Sense of impending doom
 - d. Runny nose

e. Decreasing mental status

E. Assessment of findings indicates shock (hypo perfusion) and respiratory distress.

II. Emergency Medical Care of A Patient With An Anaphylactic Allergic Reaction

A. Patient has come in contact with a substance that is causing an allergic reaction and complains of respiratory distress or exhibits signs and symptoms of shock.

- 1) Perform an initial assessment.
- 2) Administer high flow oxygen.
- 3) Perform focused history and physical exam:
 - a. Determine previous history of allergies.
 - b. What was patient exposed to?
 - c. How were they exposed?
 - d. Progression of events as allergic reaction occurred.
 - e. What effects are they experiencing now?
 - f. Interventions already tried?
- 4) Assess baseline vital signs and SAMPLE history
- 5) Determine if patient has a prescribed epinephrine auto-injector. If so, proceed using their medication. If not, proceed with EMS agency-supplied auto-injector.
- 6) Facilitate administration of epinephrine following your medical director approved, agency-specific Epinephrine Auto-Injector Protocol.
- 7) Transport or arrange for transport promptly.
- 8) Reassess patient in 2 minutes.
- 9) Record treatment procedures, assessment findings and patient response to medication on the *Patient Care Report* form.

B. Relationship to Airway Management

- 1) These patients may initially present with airway/respiratory compromise or airway/respiratory compromise may develop as allergic reaction progresses.
- 2) The airway should be managed according to airway management principles presented in the associated scope of practice for each level of EMS provider.

III. Procedural Demonstration

A. The instructor will demonstrate to students the appropriate steps in using an epinephrine auto-injector.

B. Students will practice using epinephrine auto-injector trainers.

IV. Contextual

Trained EMS personnel will now be able to administer the epinephrine auto-injector appropriately.

V. Student Activities

A) The student should hear the assessment findings, differentiating between general and anaphylactic allergic reactions.

- B) The student should hear the steps required to appropriately administer epinephrine using an auto-injector.
- C) The student should see various audio-visual aids or materials showing assessment findings relative to minor allergic reactions.
- D) The student should see various audio-visual aids or materials showing assessment findings relative to anaphylactic allergic reactions.
- E) The student should see a trainer epinephrine auto-injector used appropriately.
- F) The student should practice the correct way to use an epinephrine auto-injector.
- G) The student should practice role-play treatment of a patient experiencing an anaphylactic allergic reaction.
- H) The student should practice re-assessment and documentation relative to the use of the epinephrine auto-injector.

VI. Instructor Activities

- A) Supervise student practice.
- B) Reinforce student progress in cognitive, affective and psychomotor domains.
- C) Redirect students having difficulty with content. (Remediation)
- D) Evaluate student cognitive retention with an evaluation instrument.
- E) Evaluate student psychomotor performance during role-play, practice or skill station to determine if mastery of psychomotor skills is achieved.
- F) Identify students having difficulty with course content.
- G) Provide, complete and document remediation, if necessary.
- I) Determine if there are local areas of concern for this skill. (Identified by previous patients or locations.)
- J) Complete evaluations
- K) Complete course documents and maintain with agency and student records.
 - 1) Course Roster
 - a. Original signature of each student
 - b. Date of training
 - c. Name of sponsoring EMS agency
 - d. Original signature of instructor and assistants.
 - 2) Copy of student evaluation(s), minimum passing criteria and student score.
 - 3) Copy of curriculum used.
 - 4) List of supplemental training materials.

PEDIATRIC

BASIC LIFE SUPPORT GUIDELINE

EPINEPHRINE AUTO-INJECTOR SEVERE ALLERGIC REACTION

Reasonable certainty of on-line medical direction required for use.

INDICATIONS:

- Patient exhibits signs of a severe allergic reaction which may include respiratory distress, irregular heart rate, rapid heart rate, hives, edema of face, mouth, neck and/or tongue, hypo perfusion (shock) and/or loss of consciousness.

AND

- Medication is present: either prescribed for this patient by a physician and with the patient, or with the responding EMS personnel.

POTENTIAL ADVERSE EFFECTS:

- Increased heart rate
- Pale skin
- Dizziness
- Headache
- Heart palpitations
- Chest pain
- Excitability and anxiousness
- Nausea and vomiting

CONTRAINDICATIONS:

- The medication is expired.
- The medication name and expiration date cannot be determined.

PRECAUTIONS:

- Do not inject into a vein.
- Be prepared to initiate CPR and use AED.
- Infant patients may be more susceptible to potential adverse effects, monitor patient closely.
- Patients may carry an "Ana-Kit" syringe containing epinephrine, Do not use it. Use only epinephrine auto-injector.

1. Assess the patient, treat ABC problems, obtain baseline vitals and establish a transport plan based on general impression. Consider need for ALS or Air Medical transport.
2. Administer oxygen or assist ventilations, or begin CPR, as needed.
3. Obtain patient history. If preexisting cardiac disease or dysrhythmia is reported, contact medical control for patient specific directions.
4. Inspect the prescribed pre-loaded epinephrine auto-injector and document:
 - **Right Medication and Form-** Check expiration date, medication should be clear and colorless.
 - **Right Route-** Injected into thigh.
 - **Right Dose-** DOSAGE BY WEIGHT > 60 pounds- 0.3 mg epinephrine (1 Epipen Adult)
DOSAGE BY WEIGHT < 60 pounds- 0.15 mg epinephrine (1 Epipen Junior)

The Idaho EMS Bureau has taken extreme caution to ensure all information is accurate and in accordance with professional standards in effect at the time of publication. This guideline is for reference and may be modified at the discretion of the EMS Agency Medical Director. It is recommended that care be based on the patient's clinical presentation, and on agency specific authorized policies and protocols.

PEDIATRIC

5. Describe procedure to patient and obtain consent, if possible.
6. Remove clothing covering thigh.
7. Administer medication:
 - Remove the cap from the auto-injector.
 - Ask patient to hold leg as still as possible.
 - Cleanse injection site with alcohol pad.
 - Place the tip of the auto-injector against the lateral (outside), upper 1/3 of the patient's thigh.
 - Push the injector firmly against the thigh until the auto-injector activates.
 - Hold the injector in place until the medication is injected (approx. 10 seconds).
(Note: The majority of the solution will remain in the autoinjector after activation)
 - Dispose of the auto-injector in a biohazard sharps container.
8. Record time of administration, dose administered, site, and patient response.
9. Reassess patient every 2 minutes. Patients experiencing anaphylaxis may not always respond adequately to one injection of epinephrine. Epinephrine has a rapid onset but short duration of action, (10-20 minutes). Patients may, therefore, not improve sufficiently or may improve and relapse. Contact medical control if patient does not improve with one dose, additional doses must be cleared through medical direction.
10. Consider using bronchodilator inhaler, per *Prescribed Inhaler Guideline*.
11. Transport or arrange for appropriate prompt transport and perform ongoing assessment en route. Assist ventilations or begin CPR, as needed.
12. Bring any remaining auto-injectors with you.

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ADULT

EPINEPHRINE AUTO-INJECTOR SEVERE ALLERGIC REACTION

BASIC LIFE SUPPORT GUIDELINE

Reasonable certainty of on-line medical direction required for use.

INDICATIONS:

- Patient exhibits signs of a severe allergic reaction which may include respiratory distress, irregular heart rate, rapid heart rate, hives, edema of face, mouth, neck and/or tongue, hypo perfusion (shock) and/or loss of consciousness.

AND

- Medication is present: either prescribed for this patient by a physician and with the patient, or with the responding EMS personnel.

POTENTIAL ADVERSE EFFECTS:

- Increased heart rate
- Pale skin
- Dizziness
- Headache
- Heart palpitations
- Chest pain
- Excitability and anxiousness
- Nausea and vomiting

CONTRAINDICATIONS:

- The medication is expired.
- The medication name and expiration date cannot be determined.

PRECAUTIONS:

- Do not inject into a vein.
- Be prepared to initiate CPR and use AED.
- Geriatric patients may be more susceptible to potential adverse effects, consider using pediatric dose and monitor patient closely.
- Use Pediatric Guideline for patients under 60 pounds.
- Patients may carry an "Ana-Kit" syringe containing epinephrine, Do not use it. Use only epinephrine auto-injector.

1. Assess the patient, treat ABC problems, obtain baseline vitals and establish a transport plan based on general impression. Consider need for ALS or Air Medical transport.
2. Administer oxygen or assist ventilations or begin CPR, as needed.
3. Obtain patient history. If preexisting cardiac disease or dysrhythmia is reported, contact medical control for patient-specific directions.
4. Inspect the prescribed pre-loaded epinephrine auto-injector and document:
 - **Right Medication and Form-** Check expiration date, epinephrine medication should be clear and colorless.
 - **Right Route-** Injected into thigh.
 - **Right Dose-** DOSAGE BY WEIGHT: (> 60 pounds) 0.3 mg epinephrine (1 Epipen Adult)
DOSAGE BY WEIGHT: (< 60 pounds) 0.15 mg epinephrine (1 Epipen Junior)

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ADULT

5. Describe procedure to patient and obtain consent, if possible.
6. Remove clothing covering thigh.
7. Administer medication:
 - Remove the cap from the auto-injector.
 - Ask patient to hold leg as still as possible.
 - Cleanse injection site with alcohol pad.
 - Place the tip of the auto-injector against the lateral (outside), upper 1/3 of the patient's thigh.
 - Push the injector firmly against the thigh until the auto-injector activates.
 - Hold the injector in place until the medication is injected (approx. 10 seconds).
(Note: The majority of the solution will remain in the autoinjector after activation.)
 - Dispose of the auto-injector in a biohazard sharps container.
8. Record time of administration, dose, site administered, and patient response.
9. Reassess patient every 2 minutes. Patients experiencing anaphylaxis may not always respond adequately to one injection of epinephrine. Epinephrine has a rapid onset but short duration of action (10-20 minutes). Patients may, therefore, not improve sufficiently or may improve and relapse. Contact medical control if patient does not improve with one dose, additional doses must be cleared through medical direction.
10. Consider using bronchodilator inhaler, per *Prescribed Inhaler Guideline*.
11. Transport or arrange for appropriate prompt transport and perform ongoing assessment en route. Assist ventilations or begin CPR, as needed.
12. Bring any remaining auto-injectors with you.

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